

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A power cable comprising:

a conductive material core; and

at least one covering layer, characterized in that said at least one covering layer is constituted essentially of a material comprising an inorganic compound made from a nanocomposite material and an organic compound positioned between layers of said inorganic compound, wherein the power cable is a medium-voltage to high voltage direct current power cable.
2. (original): A power cable according to claim 1, wherein said inorganic compound is an inorganic oxide.
3. (original): A power cable according to claim 2, wherein said inorganic oxide is clay chosen from kaolin, smectite, montmorillonite, bentonite, beidellite, nontronite, saponite, hectorite, vermiculite, wollastonite or a mixture thereof.

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4. (original): A power cable according to claim 3, wherein said clay is chosen from montmorillonite and bentonite.

5. (previously presented): A power cable according to claim 1, wherein said organic compound is a polymer, a monomer or an oligomer.

6. (original): A power cable according to claim 5, wherein said polymer is chosen from a polyolefin, polybutylene terephthalate, a vinyl polymer, an elastomer, silicone, their copolymers and a structure and a mixture thereof.

7. (original): A power cable according to claim 5, wherein said polymer is chosen from an epoxy resin, polyester, polyamide, polyimide, polyetherimide, polyamidimide, polyurethane, silicone or a mixture thereof.

8. (previously presented): A power cable according to claim 1, wherein the at least one covering layer comprises an insulative material layer constituted essentially of a nanocomposite material comprising an inorganic compound and an organic compound positioned between the layers of said inorganic compound.

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9. (previously presented): A power cable according to claim 1, wherein the at least one covering layer comprises an external covering layer constituted essentially of a nanocomposite material comprising an inorganic compound and an organic compound positioned between the layers of said inorganic compound.

10. (previously presented): The power cable according to claim 1, wherein the at least one covering layer comprises at least one semiconductor screen, characterized in that the at least one semiconductor screen is constituted essentially of a material comprising an inorganic compound having an exfoliated layered structure and an organic compound inserted between the layers of said inorganic compound.

11. (currently amended): A method of fabricating at least one conductive layer of a medium-voltage to high voltage direct current power cable having a conductive core, comprising the following steps:

treating layers of an inorganic compound made from a nanocomposite material with an agent to render said inorganic compound compatible with an organic compound;

inserting said organic compound between said layers of said inorganic compound at a temperature higher than the temperature at which said organic compound softens or melts to exfoliate said inorganic compound; and

obtaining a material with said organic compound inserted between the layers of said inorganic compound.

12. (original): A method according to claim 11, wherein said inorganic compound is clay and said compatibilizing agent is chosen from a quaternary ammonium salt, and an oxide of polyethylene and a phosphorus-containing derivative.

13. (previously presented): The method of claim 11, wherein said material comprises a nanocomposite structure.

14. (previously presented): The method of claim 11, wherein said material has a particle size equal to 1 nanometer.

15. (previously presented): The method of claim 11, wherein the at least one covering layer comprises at least one semiconductor screen, characterized in that the at least one semiconductor screen is constituted essentially of a material comprising an inorganic compound having an exfoliated layered structure and an organic compound inserted between the layers of said inorganic compound.

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16. (previously presented): The power cable of claim 1, wherein said inorganic compound is clay and an agent that makes said inorganic compound compatible with said organic compound is chosen from a quaternary ammonium salt, and an oxide of polyethylene and a phosphorus-containing derivative.

17. (previously presented): The power cable of claim 1, wherein the at least one covering layer comprises:

an insulative material layer constituted essentially of a nanocomposite material comprising an inorganic compound having an exfoliated layered structure and an organic compound inserted between the layers of said inorganic compound; and

an external covering layer constituted essentially of said nanocomposite material.